

ERGONOMICS: WHY

Assorted pathologies, injuries, discomfort, mistakes, different levels of carelessness, are too often linked to human activities, either when performed independently through the adoption of personal tactics and strategies, or when they follow procedures stemming from coordinated methodologies. Every instance leads to costly burdens weighing on individual subjects, on communities, on the economy.

In short we could say that, beyond therapy and diagnosis, preventive actions focus on the themes of safety and hygiene, which generate a series of technical and regulatory systems tailored toward after-the-fact restoration.

With ergonomics, preventive measures take on a proactive attitude whose goal is to devise and create items and systems able to perform in accordance with the processes of human activities, with human natural physiology and anthropological evolution, with knowledge-gathering methods, and also with target compliance and social dynamics. With this task at its core, ergonomics can design products devoid of harmful or damaging properties, which perform not only in a risk- and discomfort-free environment, but are also able to secure the kind of preference that comes from the obvious markers of the product's general performance.

As a consequence, this planning concentrates mainly on correlations, on the ensuing connections, on the synergies they create: human subjects, by nature non-programmable, take on the role of independent variables on the interactive field in which they are a feature, variables with which the project's output must interact in accordance with full compatibility guidelines.

This output – be it a device or a system – subjected to human verification or analyzed for usefulness, versatility or simple handling, can be deemed compatible once it's conceived and built, appearing manageable and useful, and can eventually be adapted or recycled, all in accordance with human abilities' threshold, with adaptability and with the levels of acceptance on which choices are made (on marketing values as well), without forgetting the socio-cultural scenarios in which it turns up at each instance.

What matters here is the efficiency of the man/product, man/process, man/environment systems, ensuring the *sine qua non* condition of subjects' competence and their activities' effectiveness. Both the former and the latter follow a model that moves beyond professional biases exploring only body, mind or the emotional sphere, and turns instead toward emerging, articulating or alternating problems only in relation to the interacting dynamic to which the project's compatibilities must be confined.

Actually, the criteria used to assign any given function to human and/or technological operatives should be reconsidered to achieve a sharing of resources geared toward the integration and the enhancement of individual capabilities, assigning to human error, to fatigue or so-called handicap the cause of a missing or inadequate response from the project or its output, taking into consideration the subject's peculiarities in perception and knowledge, in communication and relational abilities, in decision-making and acting.

Ergonomics can advance the knowledge of these methodologies when cemented through the association – and often the revisitation – of the contribution from many human sciences and from research and experimentation on techniques and devices capable of extrapolating them during the validation phases of projects and products.